

Chapter 2: Environmental Element

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I. Physical Geography

Junction City is situated in the Willamette Valley plain between the Willamette and Long Tom Rivers.

A. Soils. Area soils consist predominantly of silty clay loam. Much of the areas south and east of Junction City has a seasonally high water table and soils with moderately slow permeability. Ribbons of gravelly silt loam are typical along the banks of the drainageways. Engineering constraints included soils with high shrink-swell potential and low permeability.

B. Groundwater. The water table is generally within 20 feet of the land surface at most times of the year and extends above the ground surface in some local areas, particularly in winter along the minor streams and seasonal wetlands. Recharge for these aquifers is from precipitation, while discharge is to the alluvial water body and to streams. Movement is generally in the northerly direction, with a small component flowing toward the center of the valley. Both permeability and flow rates in the alluvium tend to decrease with depth. A broad groundwater divide within the older alluvium occurs along the line of the Southern Pacific Railroad from Junction City to Eugene. East of the rail line much of the groundwater flows northward and slightly eastward into the permeable younger alluvium, eventually discharging into the Willamette River during periods of low water. West of the rail line, the principal flow direction is northwestward along the Amazon Drain and then northward - eventually entering the younger alluvium and the river at a point somewhere between Junction City and Monroe. The drain also receives groundwater inflow from the Coast Range foothills to the west.

C. Flooding. Historically, flooding was common in the Junction City area. Two significant changes are decreasing the frequency of major flooding. First, increasing numbers of reservoirs have been built along the main tributaries of the Willamette River. Second, channel degradation, the lowering of the mean river bed elevation, has been taking place along the Willamette River and the lower reaches of the major tributaries. The effect of degradation has been to lower the water level of the major floods. The city has adopted a Flood Hazard Area Management Plan which prohibits construction of buildings within floodway channels. Junction City Ordinance No. 1063 protects life and property from flood hazards.

D. Air Quality. Air quality in the Junction City area is monitored and regulated by the Lane Regional Air Pollution Authority (LRAPA). Local air quality impacts created by slash and field burning and by intrusion of malodorous substances from the Eugene-Springfield area. Junction

City addresses noise pollution by implementing noise standards developed by the Department of Environmental Quality and included in the City's nuisance ordinance.

E. Natural Vegetation. Natural vegetation within the city's urban growth boundary consists of three separate categories: riparian communities, grasslands, and oak woodlands. Riparian vegetation most frequently occurs along streams and rivers and usually forms a dense narrow bend near an old shore line. Willow, cottonwood, and alder trees are most prevalent in these areas. This vegetative habitat is very valuable in that it provides food, cover, and resting opportunities for a great variety of animal species. The grassland habitat includes irrigated and non-irrigated agricultural foliage and croplands. Local grasslands are used to graze domestic livestock. Oak woodlands consist of white and black oak groves. Two large groves are located on public property.

II. Wetlands and Stream Corridors

Surface waters include minor streams, wetlands and natural or artificial lakes. The minor streams include two seasonal channels for Flat Creek and two seasonal channels for Crow Creek, both flowing in a northwesterly direction. Flat Creek is an overflow channel of the Willamette River with the two branches that flow through the City: Channels F1 and F1b.

Junction City has completed a Local Wetland Inventory (August 2011) for land within its Urban Growth Boundary. The Junction City area has high concentrations of hydric soils that are highly indicative of wetlands, especially west and south of the City. Because Junction City's wetlands are so widespread, the City has chosen to provide local protection (beyond the requirements of state and federal law) to defined channels within the City and to several high quality wetlands as identified in the City's economic, social, environmental and energy consequences (ESEE) analysis. Junction City is, however, committed to working closely with developers and the Department of State Lands (DSL) to identify and mitigate for impacts from wetland development.

III. ESEE Consequences Analysis

In 2000, as part of a plan amendment and master planning process for the 320-acre Oaklea site, the City applied a new Open Space plan designation and Stream Corridor and Wetland District to protect Crow Creek and delineated wetland areas. Areas identified on the master plan and Comprehensive Plan map as protected wetlands and agricultural buffer areas shall remain protected by the Open Space plan designation and the terms of the approved master plan.

The 2009 Economic Opportunities Analysis described the site requirements of targeted types of employment and compared these requirements with suitable employment sites within and immediately outside the Junction City UGB. Based on this analysis, it became clear that some of Junction City's best employment sites (*i.e.*, those located along Highway 99W) were highly constrained by land by wetlands. Evidence provided by the Department of State Lands (DSL) confirmed a high correlation between hydric soils and delineated wetlands in and around Junction City. Moreover, the areas without hydric soils (land to the north and east of the existing UGB) are more likely to have higher value agricultural soils because these areas are relatively well-drained.

After considering economic, social, environmental and energy (ESEE) consequences of alternative policy options, the City decided to protect defined channels within the City, several high quality wetlands, as well as approved wetland mitigation sites from most development impacts. However, in order for Junction City to provide suitable employment sites and buildable residential land within the existing UGB, the City determined that local protection was not appropriate for three relatively low quality wetlands identified in the 2012 ESEE analysis. The City would then rely on DSL and Army Corps of Engineers programs to mitigate for adverse development impacts.

ESEE Conclusion: The 2012 ESEE Analysis concluded that local protection should be afforded to five relatively high quality wetlands. However, only portions of Wetland FC-01 (Oaklea) that are now protected by the Open Space plan designation (or by conditions of land use approval) are included in this recommendation. The remaining wetlands west of Oaklea Road and east of Flat Creek would be subject only to DSL regulation. In addition, the ESEE analysis concluded that local protection should be afforded to five relatively low quality wetlands to protect the open water aesthetic and flood control qualities. Because of identified adverse economic impacts, the 2012 ESEE Analysis recommended relying solely on DSL to review impacts from filling and removing the remaining three relatively low quality wetlands identified on the Local Wetlands Inventory.

IV. Environmental Policies

A. Junction City shall rely on its Floodplain Ordinance to ensure that most types of construction are prohibited in the floodway and strictly limited within the 100-year flood plain.

B. Junction City will coordinate with the Department of Environmental Quality to ensure that state and federal air, water and land resource quality is maintain and enhanced.

C. The Open Space Comprehensive Plan Map designation is intended to apply to stream corridors and relatively high quality wetlands that will remain in long-term open space use – regardless of whether the land is privately or publicly owned.

1. The boundaries of the Open Space designation may be adjusted to reflect the actual location of the protected space.

2. The Open Space designation shall continue to apply to the Oaklea property as called for in the Oaklea Master Plan (2000).

D. Prior to the issuance of a land development permit for any site listed on the City's Local Wetland Inventory, the City shall refer the request to DSL and the Army Corps of Engineers for their review and comment.

E. Following adoption of the LWI, Junction City shall apply the Wetland Resources Overlay District (WRD) to wetlands identified for local protection in the 2012 ESEE Analysis and to wetland mitigation sites approved by the Division of State Lands.

F. Junction City shall provide no local protection for three relatively low quality wetlands and a portion of the FC-01 wetland as identified in the 2012 ESEE Analysis and will rely on DSL to regulate wetland development within locally significant wetlands that are not protected by the WRD.